

Remarks

I. Status

Claims 1-74 have been examined. This Response does not present any amendments to the Claims.

II. The Rejection Of Claims 1, 11-16, 20, 29 and 36 As Anticipated (Pursuant To 35 U.S.C. § 102(e)) Or Obvious (Pursuant To 35 U.S.C. §§ 102(e)/103(a)) In Light Of Chait *et al.* (U.S. Patent Publication US 2003/0045694 A1)

The Examiner has rejected claims 1, 11-16, 20, 29 and 36 as anticipated (pursuant to 35 U.S.C. § 102(e)) or obvious (pursuant to 35 U.S.C. §§ 102(e)/103(a)) in light of Chait *et al.* (U.S. Patent Publication US 2003/0045694 A1). Chait *et al* is stated to describe a method for preparing a protein-oligonucleotide conjugate at column 91, paragraph 1290. This paragraph reads as follows:

[1290] Each of the protein preparations is tagged with a unique DNA oligonucleotides (coding tags), wherein a set of 64 different coding tags has the property of not being able to hybridize with each other. The protein preparation is reacted with 2-iminothiolane (Alagon and King, (1980) Activation of polysaccharides with 2-iminothiolane and its uses. Biochemistry. 19:4341-4345) to introduce reactive sulfhydryl groups, if none is present. A DNA oligonucleotide (the coding tag), containing a reactive amino group at one of its termini is reacted with a heterobifunctional cross-linking reagent, such as SULFO-SMCC (Pierce, Inc.). The thiol-containing proteins are incubated together with the activated oligonucleotide, to form a covalent protein-DNA adduct (thus labeling the protein with a coding tag). For most protein molecules, the formation of this covalent adduct will not interfere with the capacity of the protein to associate with its cognate antibody. A total of 64 protein preparations, each harboring covalently coupled unique coding tag sequences, are pooled together before being used for the multiplexed assay.

Applicants respectfully draw the Examiner's attention to the statement in the above-cited paragraph that:

A DNA oligonucleotide (the coding tag), containing a reactive amino group at one of its termini is reacted with a heterobifunctional cross-linking reagent, such as SULFO-SMCC (Pierce, Inc.).

Applicants respectfully submit that this description would have been insufficient to enable those of ordinary skill, as of the filing date of the Chait *et al.* patent application, to understand how the “reactive amino group” is to be installed at the termini of the DNA oligonucleotide.¹ Accordingly, it is respectfully submitted that since the Chait *et al.* patent application does not enable this aspect of its disclosure, it cannot be properly cited as teaching the presently claimed invention (please see, MPEP §706.02(f)(1)). Accordingly, it is respectfully submitted that the rejection may be properly withdrawn.

As the Examiner will also note, Chait *et al.* was published on March 6, 2003, and was filed on August 13, 2001. The present application was filed on October 24, 2001. Applicant herewith submit a Declaration Pursuant to 37 C.F.R. 1.131 establishing that the present inventors had conceived of, and had reduced to practice, the subject matter of the rejected claims in the United States prior to the August 13, 2001, filing date of the Chait *et al.* patent application.

As indicated in the Declaration, **Exhibit A**, pages 1-2 shows that an oligonucleotide of defined sequence was synthesized, purified, 3' aminated and conjugated with an anti-IL-8 antibody. **Exhibit A**, page 3 describes the purification of the antibody-oligonucleotide conjugate. **Exhibit A**, pages 4-5 describe the use of the conjugate molecule to assay IL-8. As also indicated in the Declaration, **Exhibit B** describes embodiments of the present invention, a preferred reaction scheme, as well as a photocopy of the results of an assay of IL-8 using the antibody-oligonucleotide conjugate. **Exhibits A and B** were prepared by the inventors, in the United States, prior to the filing date of the Chait *et al.* patent application.

In light of Applicants' submissions, it is respectfully submitted that the rejection of claims 1, 11-16, 20, 29 and 36 as anticipated (pursuant to 35 U.S.C. § 102(e)) or

¹ As the Examiner will appreciate, the present Applicants disclose how oligonucleotides can be suitably aminated (please note the teaching of the present application at page 10, lines 8-14).

obvious (pursuant to 35 U.S.C. §§ 102(e)/103(a)) in light of Chait *et al.* (U.S. Patent Publication US 2003/0045694 A1) may be properly withdrawn.

III. The Rejection Of Claims 2-28 and 30-74 As Obvious (Pursuant To 35 U.S.C. §§ 102(e)/103(a)) In Light Of Chait *et al.* (U.S. Patent Publication US 2003/0045694 A1) and Reddy *et al.* (U.S. Patent No. 5,648,213)

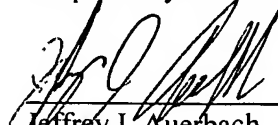
The Examiner has rejected claims 2-28 and 30-74 as obvious (pursuant to 35 U.S.C. §§ 102(e)/103(a)) in light of Chait *et al.* (U.S. Patent Publication US 2003/0045694 A1) and Reddy *et al.* (U.S. Patent No. 5,648,213). Chait *et al.* is stated to describe a method for preparing a protein-oligonucleotide conjugate at column 91, paragraph 1290, as described above. Reddy is stated to describe the formation of a protein-oligonucleotide conjugate in which the protein possesses a native thiol group (i.e., a cysteine residue).

In light of Applicants submissions with respect to the Chait *et al.* patent application, Applicants respectfully submit that the Chait *et al.* patent application can no longer be applied as a reference against the cited claims. Applicants further submit that the Reddy *et al.* patent alone fails to render the present claims obvious. Accordingly, Applicants submit that the rejection of claims 2-28 and 30-74 as obvious (pursuant to 35 U.S.C. §§ 102(e)/103(a)) in light of Chait *et al.* (U.S. Patent Publication US 2003/0045694 A1) and Reddy *et al.* (U.S. Patent No. 5,648,213) may be properly withdrawn.

Having now fully responded to all of the Examiner's rejections, Applicants respectfully submit that the present application is in condition for Allowance, and earnestly solicit early notice of such favorable action. The Examiner is respectfully requested to contact the undersigned with respect to any issues regarding this application.

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Respectfully Submitted,



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